

What is claimed is:

1. A catalyst particle for a cathode of fuel cells, wherein the whole particle or at least the surface of the particle comprises an alloy of two or more metals selected from the group consisting of Fe, Co, Ni, Rh, Pd, Pt, Cu, Ag, Au, Zn, and Cd and the alloy has a stronger oxygen-binding force than platinum or a weaker hydrogen-binding force than platinum.

2. The catalyst particle according to claim 1, wherein the alloy has a stronger oxygen-binding force than platinum and a weaker hydrogen-binding force than platinum.

3. The catalyst particle according to claim 1, wherein the alloy is selected from the group consisting of Cd and Au; Cd and Ag; Cd and Cu; Cd and Ni; Cd and Pd; Cd and Pt; Zn and Au; Zn and Ag; Zn and Cu; Zn and Ni; Zn and Pd; Zn and Pt; Cu and Pd; Cu and Pt; and Ag and Pt.

4. A supported catalyst for a cathode of fuel cells, comprising:
an electroconductive, porous carrier having micropores; and
the catalyst particle according to claim 1, positioned in the pores of the carrier.

5. The supported catalyst according to claim 4, wherein the carrier is activated carbon, graphite, mesoporous carbon powder or carbon nano tube.

6. A fuel cell comprising:
a cathode;
an anode; and
an electrolyte membrane being placed between the cathode and the anode, wherein the cathode comprises the supported catalyst according to claim 4.

7. A supported catalyst for a cathode of fuel cells, comprising:
an electroconductive, porous carrier having micropores; and
the catalyst particle according to claim 2, positioned in the pores of the carrier.

8. The supported catalyst according to claim 7, wherein the carrier is activated carbon, graphite, mesoporous carbon powder or carbon nano tube.

9. A fuel cell comprising:
a cathode;
an anode; and
an electrolyte membrane being placed between the cathode and the anode,
wherein the cathode comprises the supported catalyst according to claim 7.

10. A supported catalyst for a cathode of fuel cells, comprising:
an electroconductive, porous carrier having micropores; and
the catalyst particle according to claim 3, positioned in the pores of the carrier.

11. The supported catalyst according to claim 10, wherein the carrier is activated carbon, graphite, mesoporous carbon powder or carbon nano tube.

12. A fuel cell comprising:
a cathode;
an anode; and
an electrolyte membrane being placed between the cathode and the anode,
wherein the cathode comprises the supported catalyst according to claim 10.